



**ANNUAL REPORT**  
TO THE NEW ENGLAND GOVERNORS

**2015**




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## SECTION I: GOVERNANCE

A Board of Managers representing the six New England states directs NESCOE's affairs and engagement in regional issues. Each Governor appoints a NESCOE Manager. Regardless of the number of individuals each Governor appoints as a NESCOE Manager, each New England state has one undivided vote in arriving at NESCOE determinations.

With limited exception, NESCOE determinations are by consensus, reflecting the six New England states' effort to speak with one voice on regional electric matters.



Nearly all NESCOE determinations have been unanimous, reflecting the New England states' efforts to achieve consensus on regional electricity matters. In circumstances where there may not be consensus, NESCOE makes policy determinations with a majority vote (i.e., a numerical majority of the states) and a majority weighted to reflect relative electric load of each state within the region's overall load. In addition, from time to time representatives from various offices within state governments contribute diverse expertise on various matters. NESCOE appreciates the contributions these perspectives provide to its determinations.

## NESCOE MANAGERS

### STATE OF CONNECTICUT

#### *Katie Scharf Dykes*

Deputy Commissioner for Energy

Connecticut Department of Energy and Environmental Protection (CT DEEP)



Deputy Commissioner Dykes oversees the work of both halves of CT DEEP's Energy branch: the Public Utilities Regulatory Authority (PURA) on the regulatory side, and the Bureau of Energy and Technology Policy on the energy strategy side. Deputy Commissioner Dykes joined CT DEEP in March 2012, after serving as Deputy General Counsel for the White House Council on Environmental Quality. In that role she provided legal counsel on a variety of energy and environmental issues including climate change and sustainability. Prior to that, she served as Legal Advisor to the General Counsel for the U.S. Department of Energy. At the Department of Energy, she

worked on issues related to regulatory reform, electric power transmission, energy efficiency, and renewable energy. Deputy Commissioner Dykes holds a bachelor's degree in history and environmental studies from Yale, a master's degree in history, also from Yale, and she is a graduate of Yale Law School.

### STATE OF MAINE

#### *Patrick Woodcock*

Director, Governor's Energy Office



Patrick Woodcock directs Governor Paul LePage's Energy Office. In that capacity, he is responsible for planning and coordinating state energy policy and serves as the primary energy policy advisor to the Governor. Prior to assuming this positions, Woodcock worked for United States Senator Olympia Snowe. Woodcock ultimately held the position of Senior Advisor to the Senator on energy and environmental issues, in which he was responsible for developing Senator Snowe's legislative agenda including the "Cut Energy

Bills at Home Act.” Prior to his time in Washington, D.C., Woodcock led the Maine Senate Republicans, developing and facilitating campaign plans for multiple candidates, conducting comprehensive voter analysis throughout Maine and managing campaign budgets. Woodcock attended Bowdoin College and holds a Bachelor of Arts degree in Government and Economics and minored in economics.

## COMMONWEALTH OF MASSACHUSETTS

*Angela O’Conner*

Chairman, Department of Public Utilities



Angela M. O’Connor was appointed by the governor of Massachusetts as the chairman of the department of public utilities in January of 2015. Prior to being appointed by the governor, Angela was the executive director, based in Boston, of Technet for the northeast region. Technet is a national, bipartisan CEO-led trade association founded in 1997 by a group of Silicon Valley visionaries to create a bridge for the technology industry with state and federal policymakers. O’Connor joined Technet from the New England power generators association

(NEPGA) – the largest trade association in the region representing electric power generators. As the organization's founding president, O’Connor provided strategic leadership to NEPGA and served as chief spokesperson for the owners and operators of the electric generating infrastructure in New England. O’Connor previously served as vice president of energy policy at associated industries of Massachusetts (A.I.M.), the commonwealth’s principal statewide employer organization. In that capacity, she represented the energy interests of A.I.M.’s 7,600 members, including a wide range of public, legislative and regulatory activities. Before joining A.I.M., O’Connor was operations manager for Massachusetts Health and Educational Facilities Authority Poweroptions program, the largest energy purchasing consortium in New England consisting of colleges and universities, hospitals, other non-profits, and municipalities. Earlier in her career she worked in marketing for the Boston Celtics, served as an environmental assistant to the city of Boston’s environmental department, and was a small business owner. She also served as chairman of the board of selectmen for the town of Rockport. O’Connor is a graduate of the University of Massachusetts - Boston.

STATE OF NEW HAMPSHIRE

***Robert Scott***

Commissioner, Public Utilities Commission

*NESCOE Treasurer, 2015*



Commissioner Scott was appointed Commissioner of the New Hampshire Public Utilities Commission in March 2012. He previously served with New Hampshire Department of Environmental Services as Air Resources Director (2003-2012) and in various positions with the Department of Environmental Services prior to that. He worked as an engineer in private industry from 1990 to 1995 and as a Munitions and Aircraft Maintenance officer in the active duty US Air Force from 1986 to 1990. Commissioner Scott serves on the Regional Greenhouse Gas Initiative, Inc. (RGGI) Board of Directors, Co-Chairs the Northeast Energy Efficiency

Partnerships Evaluation, Measurement and Verification Forum Steering Committee, and Co-Chairs the New England Conference of Public Utilities Commissioners (NECPUC) subcommittee on cyber security. He is currently commander of the 265th Combat Communications Squadron of Maine Air National Guard. Commissioner Scott holds a B.S. in Mechanical Engineering from Lehigh University.

STATE OF RHODE ISLAND

***Marion Gold, Ph.D***

Commissioner, Office of Energy Resources

*NESCOE President, 2015*



Marion Gold has served as Commissioner of the Rhode Island Office of Energy Resources (OER) since August 2012. Dr. Gold is dedicated to working with public and private sector partners to provide sustainable, secure, and cost-effective energy services to all sectors of the community. Prior to joining the OER, she was the Director of the Outreach Center at the University of Rhode Island (URI) where she established the URI Partnership for Energy and directed extension programs for communities and the public in energy, environmental horticulture, and urban agriculture. She served on the URI President's

Council for Sustainability and on the Rhode Island Energy Efficiency and Resource Management Council.

Dr. Gold has been a leader in environmental issues throughout her decades of public service. Early in her career, she worked at the Rhode Island Department of Environmental Management and the state's Resource Recovery Corporation, where she was instrumental in launching the first statewide recycling program in the country. She continues to serve as an adjunct professor of Environmental and Resource Economics, and enjoys teaching courses on energy and energy economics; serving on graduate committees; and advising Energy Fellows. Dr. Gold holds a BS with honors in Natural Resource Science and Policy from the University of Michigan, a MS in Environmental Economics from Michigan State University, and a Ph.D. in Environmental Sciences from the University of Rhode Island.

***Margaret Curran***  
Chairperson, Public Utilities Commission



Margaret Ellen (Meg) Curran was appointed to Chair the Commission by Governor Lincoln Chafee in June 2013.

Ms. Curran had served as United States Attorney (District of Rhode Island) from 1998 to 2003, previously serving as Assistant US Attorney. She was most recently a member of the Rhode Island Parole Board, and is currently Chair of the Rhode Island health benefits exchange Advisory Board. (HealthSource RI).

Chairperson Curran has a B.A. in Biology from the University of Pennsylvania and an M.S. in Anthropology from Purdue University. Ms. Curran received her J.D., with high honors, from the University of Connecticut School of Law. She was Editor-in-Chief of the Connecticut Law Review. After graduation, she clerked for the Honorable Bruce M. Selya, in the United States District Court for the District of RI. She subsequently clerked for the Honorable Thomas J. Meskill, who was then on the Court of Appeals for the Second Circuit. She has also been in private practice and served as Adjunct Professor of Law at the Roger Williams University School of Law, which would later award her an Honorary Doctor of Laws degree in 2003. In 2004, she received the John H. Chafee Memorial History Maker Award for Service.

Ms. Curran is a member of the American Law Institute and an advisor on the Model Penal Code: Sentencing Project. She is a member of the First Circuit Court of Appeals Rules Advisory Committee. She also belongs to the National Association of

Former United States Attorneys and Bat Conservation International. Since 2008, Ms. Curran has also been a member of the Board of Directors of the Institute for the Study & Practice of Nonviolence.

STATE OF VERMONT  
*Christopher Recchia*

Commissioner, Department of Public Service



Christopher (Chris) Recchia was named Commissioner of the Public Service Department by Governor Peter Shumlin in January, 2013. Prior to his appointment as Public Service Commissioner, Recchia served as Deputy Secretary for the Agency of Natural Resources, a position to which he was appointed in January, 2011. Commissioner Recchia has almost 30 years of experience as an environmental leader in the development of state and federal environmental and energy policy and the implementation of programs managing natural and energy resources. In addition to serving in leadership roles in the private sector, Recchia also served as both Deputy Commissioner and Commissioner for

the Vermont Department of Environmental Conservation from 1997 to 2003. He holds a bachelor's degree from the University of Vermont in biology, a master's degree in Environmental Law from Vermont Law School, as well as a master's degree in Natural Resource Policy and Management from Yale University.



## SECTION II: STAFF & CONSULTANTS

The NESCOE staff team has diverse academic and professional backgrounds, including economics, accounting, engineering, and law as well as a cross section of private and public sector experience in New England. NESCOE's professional staff and technical consultants bring comprehensive and deep experience to analysis and filings with the Federal Energy Regulatory Commission (FERC), other federal agencies and ISO New England.



### *Jeff Bentz*

#### **Director of Analysis**

*Jeff Bentz*, CPA was named NESCOE's Director of Analysis in 2011. Previously, Jeff was with a New England generating facility, MASSPOWER, for nearly twenty years. Jeff served in progressive positions with MASSPOWER and was ultimately its General Manager. Earlier in his career Jeff was with Arthur Andersen and Company. Jeff has a Bachelor of Science degree in Accounting from Central Connecticut State University.

### *Dorothy Capra*

#### **Director of Regulatory Services**

In 2011, *Dorothy Capra* was named NESCOE's Director of Regulatory Services. Since 2000, Dorothy was International Power's Director of Regulatory Affairs for NEPOOL and more recently for PJM. In that capacity, she coordinated regulated activities in New England and PJM and related activities at the FERC. Dorothy was elected Vice Chair of the New England Power Pool's (NEPOOL) Transmission Committee and has served in the past as Vice Chair of its Reliability Committee. Before that, Dorothy was with New England Electric System

(National Grid) for ten years in a variety of positions, including in transmission and rates. She began her career at BP Oil, Inc. Dorothy has a MBA from the Amos Tuck School at Dartmouth and a BS in Chemical Engineering from Washington University in St. Louis.

### ***Ben D'Antonio***

#### **Counsel & Analyst**

**Ben D'Antonio** joined NESCOE in 2012 as Counsel and Analyst. Before that, Ben worked in the Regional and Federal Affairs Division of the Massachusetts Department of Public Utilities as an economist and legal counsel, with a focus on wholesale electricity market and transmission planning issues. Previously, Ben was a Regulatory Assistance Project Energy and Environment Fellow, where he provided support to state utility commissions on clean energy policies. Earlier, Ben worked in financial services. Ben has a Juris Doctor, with honors, and Masters of Environmental Law, with honors, from Vermont Law School and a Bachelor of Arts in Economics from the University of Vermont.

### ***Heather Hunt***

#### **Executive Director**

**Heather Hunt** joined NESCOE as Executive Director in 2009. Previously, Heather had a regulatory law practice for six years, was Director, State Government Affairs, United Technologies Corporation and Group Director, then Vice President, Regulatory at Southern Connecticut Gas. Earlier, she was a Public Utility Commissioner in Maine and Connecticut and was on the legal staff of a Connecticut Governor. Heather has a Bachelor of Arts in Politics from Fairfield University and a Juris Doctor from Western New England College School of Law. Heather is a founder and president of Live On Organ Donation, Inc. and serves on the Living Donor Committee of the United Network for Organ Sharing.

### ***Jason Marshall***

#### **General Counsel**

**Jason Marshall** joined NESCOE in 2012 as Senior Counsel. Previously, he was Counsel with the Regional and Federal Affairs Division of the Massachusetts Department of Public Utilities (DPU). Before that, Jason was Legal Counsel to a Massachusetts State Senator. Earlier, Jason was an associate at the law firm Brown Rudnick and was a Law Clerk to the Chief Justice of the Massachusetts Appeals Court. Jason has a Bachelor of Arts, with honors, from Boston College and a Juris Doctor, with honors, from the University of Connecticut School of Law.

In addition, NESCOE retains consultants to provide technical analysis in the areas of system planning and expansion and resource adequacy. NESCOE also retains consultants to conduct specific analysis to inform policymakers' consideration of current issues. In 2015, NESCOE worked with consultants such as **Wilson Energy Economics, Peter Flynn LLC** and **Reishus Consulting, LLC**.

NESCOE does not use litigation as a primary means to accomplish its objectives, and when it needs to, NESCOE staff produces the vast majority of legal pleadings. In 2015,

NESCOE legal activity was to a significant degree in defense of New England consumers in response to litigation initiated by one or more New England power generators. NESCOE also brought, for the first time, a challenge in the D.C. Circuit Court of Appeals. NESCOE's appeal is in connection with the public policy provisions of FERC's Order 1000. When NESCOE required outside counsel in 2015, it worked primarily with **McCarter & English, LLP** in Washington D.C.

### **SECTION III: COORDINATION WITH REGIONAL STATE ENTITIES**

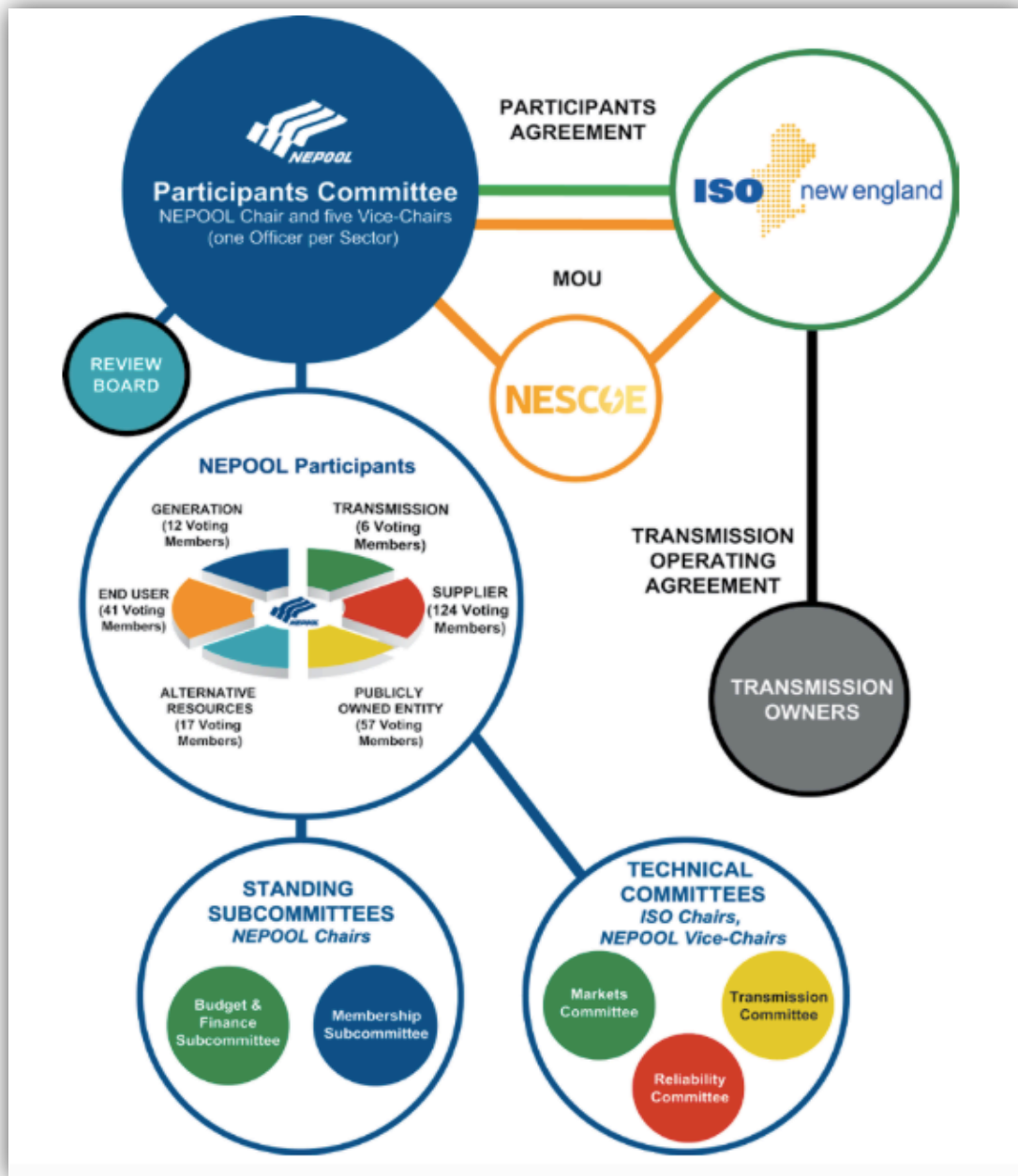
NESCOE works to ensure coordination and communication and to avoid duplication of effort by and among state entities in the New England region. Throughout 2015, as in past years, NESCOE coordinated with the New England Conference of Public Utility Commissioners (NECPUC) and the Coalition of Northeastern Governors (CONEG). NESCOE shared information about matters it was working on and participated in regular NECPUC calls with ISO New England, in meetings between state officials and ISO New England's Board of Directors, and in NECPUC's Annual Symposium. NESCOE also communicated with CONEG on issues of mutual interest with cross border implications, such as changes to New England's Generator Information System in connection with resource verification.

Further, to maximize coordination among states and leverage the technical expertise that exists within state agencies on various matters, NESCOE also coordinates teams from time to time, as needed, of subject matter experts from state governments to work with NESCOE on various matters. This includes, for example, multi-state coordinated clean energy procurement, distributed generation data collection, and North American Electric Reliability Corporation (NERC) standards development.

### **SECTION IV: 2015 ACTIVITY, FOCUS AREAS & ACCOMPLISHMENTS**

#### ***Regional Stakeholder Forums***

NESCOE participated - and regularly played an important role - in substantive New England regional stakeholder forums throughout 2015. NESCOE continued its regular participation in the NEPOOL Participants, Reliability, Transmission, Markets, and Power Supply Planning Committee meetings. NESCOE represented the collective views of the New England states and offered proposals to ensure appropriate planning and market rule changes to achieve common energy policy objectives and the states' role in relation to decisions about transmission proposed to advance state policies. The structure of regional electric stakeholder participation is set out in the diagram that follows.



Graphic, courtesy of NEPOOL

Additionally, NESCOE participated in ISO New England's Planning Advisory Committee (PAC) and Consumer Liaison Group meetings. NESCOE appreciates the opportunity provided by ISO New England at PAC meetings for NESCOE to update stakeholders periodically regarding its activities.

NESCOE also participated in various working groups and *ad hoc* subject matter meetings convened for specific purposes, such as the Energy Efficiency Forecast Working Group, the Distributed Generation Forecast Working Group and the Variable Resource Working Group. These groups facilitate NESCOE's understanding of diverse stakeholder perspectives and provide an opportunity for NESCOE to communicate the collective views of the six New England states.

Together, the various committees and work groups convened for more than 125 days in 2015.



NESCOE also monitored the Eastern Interconnection States Planning Council (EISPC) meetings and Eastern Interconnection Planning Collaborative (EIPC) working group meetings relating to interregional coordination. Also, from time to time and as warranted, NESCOE participated in Inter-area Planning Stakeholder Advisory Committee meetings, Northeast Power Coordinating Committee (NPCC) Government Relations Committee meetings, and the Northeast International Committee on Energy meetings.

In 2016, NESCOE will continue to participate in regional stakeholder forums to advance the collective objectives of the six New England states and in meetings outside of the region as appropriate on issues related to resource adequacy and system planning and expansion.

### ***Filings with Regulators, Agencies and ISO New England***

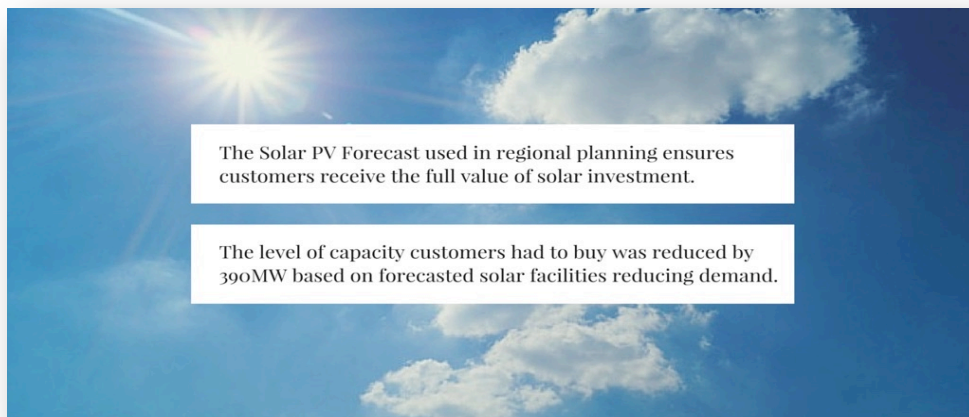
NESCOE's interactions with federal regulators, agencies, and ISO New England reflected another year of significant regional and federal activity with important implications for New England consumers in the areas of resource adequacy and system planning and expansion. In 2015, NESCOE reformed its website, [www.nesoce.com](http://www.nesoce.com). Its *Resource Center* enables searches for NESCOE documents by name or general subject matter. NESCOE also provides notice of and distributes its filings and comments through a twitter account, @nescoestates, to facilitate information sharing.

A representative sample of NESCOE's diverse substantive filings includes:

- **Comments and Protest to FERC on ISO New England's Proposed Winter Program:** In the NEPOOL stakeholder process, NESCOE emerged as a primary proponent of an alternative to ISO New England's proposed Winter Program. Under the alternative proposal, the region would maintain an appropriate and justified level of procurement for incremental reliability benefits, and target incentive payments only to those resources that were expected to modify their fuel management practices in exchange for payments. In contrast, ISO New England's program would have cost consumers an additional \$100 million or more over the life of the three-year program in pursuit of a "more market-based construct." NESCOE presented its view to FERC through comments, a protest, and expert testimony by NESCOE staff on behalf of NEPOOL, and FERC approved the program that NESCOE helped to develop and support.

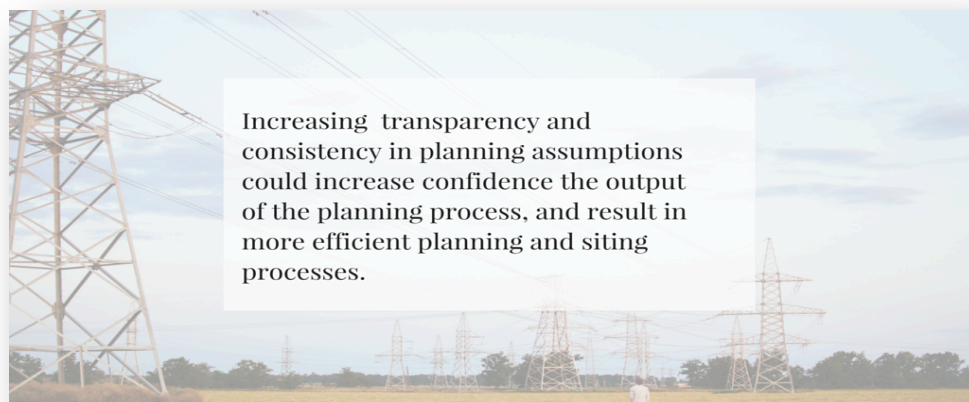


- **Comments to ISO New England on its Solar PV Forecast and Comments to FERC on ISO New England's incorporation of the Solar PV Forecast into the Installed Capacity Requirement:** NESCOE urged ISO New England to reconsider the proposed discount factors it initially considered using in connection with a first in the nation "Solar PV Forecast." Those discount factors would have resulted in ISO-NE planning the bulk power system assuming that at least half the states' documented PV goals are not realized from 2020 and beyond. ISO New England agreed with NESCOE's proposed approach. NESCOE also filed comments with FERC in strong support of ISO New England reflecting the Solar PV Forecast in the Installed Capacity Requirement calculation. Ultimately, by accounting for significant investments in these distributed generation resources, the Solar PV Forecast reduced the level of capacity consumers needed to buy through ISO New England's most recent capacity auction by about 390 MW.



- **Comments to ISO New England about Improving Transparency and Consistency in Transmission Planning:** In 2015, NESCOE continued to urge ISO New England to enhance consistency and transparency in transmission planning assumptions. In

short, rather than debating each element of base case formation independently (for example, whether it is reasonable for ISO New England to assume two generators are out of service when determining regional needs), ISO New England could enhance consistency and transparency by applying probabilities of generator outages and load levels to determine the relative likelihood of the various base cases. This approach could increase state and stakeholder confidence in ISO New England’s planning assumptions and the output of the planning process, and result in more efficient planning and siting processes. ISO New England is now exploring this approach in earnest.



### ***Multi-State Coordinated Competitive Renewable Power Solicitation***

Each of the six New England states has energy and environmental statutory objectives that require, to varying degrees, the use of no- or low-carbon resources. New England’s regional wholesale electricity market is, nevertheless, currently structured to be resource neutral. With some limited exceptions, the regional market does not therefore generally serve as a vehicle through which states can achieve their energy and environmental policy objectives.<sup>1</sup> Indeed, when states have sought to achieve a reasonable balance between state policies and wholesale markets, such as through a narrowly tailored and modest Renewable Technology Resource Exemption in the Forward Capacity Market, New England power generators responded with litigation. States have in some instances pursued alternative means to obtaining resources needed to satisfy some states’ laws and policy objectives.

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<sup>1</sup> As discussed elsewhere in this Report, ISO New England has at the states’ request reflected certain resources supported by state programs and policies, such as energy efficiency and solar PV, through the application of forecasts of those resources in planning.



One approach some states are exploring is individual but coordinated clean power procurement. This is in furtherance of the concept identified in the 2009 *New England Governors' Renewable Energy Blueprint* and subsequent New England Governors' direction to explore whether states acting together could achieve what no one state might be able to accomplish acting alone. To that end, in the latter half of 2014 and throughout 2015, NESCOE facilitated coordinated work by interested state governments and electric distribution company representatives on draft joint procurement documents that satisfy individual states' processes and requirements. This culminated in the release of draft solicitation documents for public comment in early 2015 and, ultimately, issuance in November 2015 of a multi-state Clean Energy Request for Proposals.<sup>2</sup> NESCOE's involvement in the multi-state procurement process ended once project developers submitted bids: NESCOE does not evaluate or select projects.

In 2016, an Evaluation Team that does not include NESCOE will analyze bids. Selected projects, if any, will be submitted to state regulatory authorities for their process and consideration in contested proceedings.



This coordinated activity provides a model for any subsequent coordinated procurement effort, and NESCOE is prepared to facilitate the same early, pre-bid phases of this work if and as directed by the states.

### ***Accommodation of State Policies in Regional Markets***

Over a decade ago, New England transitioned to competitive markets to serve

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<sup>2</sup> Information related to the Clean Energy RFP is at [www.cleanenergyRFP.com](http://www.cleanenergyRFP.com).

consumers.<sup>3</sup> In 2015, the New England states evidenced support for competitive wholesale markets through, for example, supporting reforms that would improve the efficiency and operation of those markets - even when it did not mean the lowest possible immediate prices for consumers but would provide consumers optimal market-driven results over the longer-term.

***However, for New England-wide system planning and wholesale competitive markets to be sustainable, they must reasonably account for and accommodate state energy and environmental policies.***

Today, the challenges to state policy execution in the context of New England’s regional wholesale markets are at least two-fold. First, as discussed further below in connection with FERC’s Order 1000, ISO New England is required to consider state public policies in transmission planning but, when it comes to selecting resources through competitive auctions, ISO-NE is resource neutral and thus generally indifferent to public policy objectives. Fundamental questions remain about this overall construct, including how FERC jurisdictional wholesale markets will integrate the state public policy resources that FERC presumably intends to advance through its directives, which states are challenging in court, on state public policy transmission.

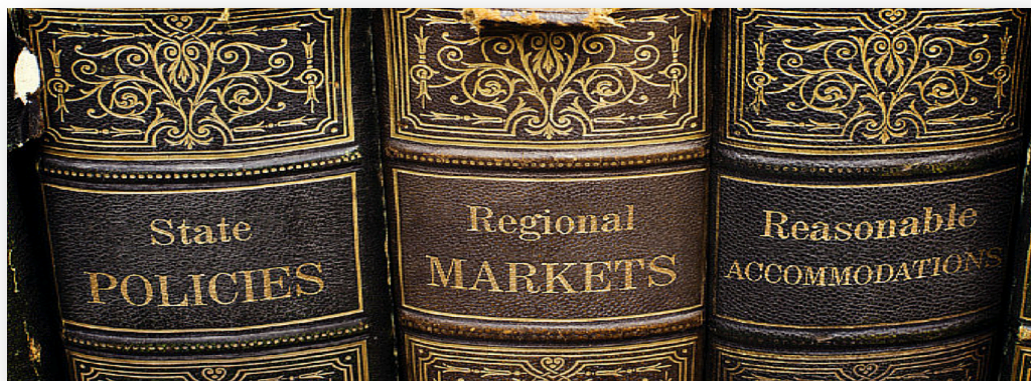
Second, on many instances in which states have sought to account for state policy requirements in regional planning and markets, New England power generators, both individually and through a trade organization, have responded with litigation. The long-term vision driving opposition to the execution of state statutory requirements is not apparent. For example, three generators appealed to the D.C. Circuit Court of Appeals a NESCOE-supported and FERC-approved Renewable Technology Resource Exemption to the Minimum Price Offer Rule in the Forward

Capacity Market that was narrowly tailored and modest in scope. This matter has since been remanded to FERC. Such generator litigation arises even though only 16 MW of renewable

	Take a moment to consider the purpose of restructuring.
	It was never to implement markets or to seek to achieve their benefits at the expense of state energy or environmental policies, or to diminish environmental quality.
	When generators oppose in- and out-of-market mechanisms to recognize state policies in planning and markets, from use of the DG Forecast, to the Renewable Exemption, to Clean Energy RFPs, it suggests a belief that markets are an end in themselves or paramount to state laws. They are not.

<sup>3</sup> For more information regarding New England’s electricity industry restructuring, see *Electric Restructuring in New England – A Look Back* (December 2015), available at [http://nescoe.com/wp-content/uploads/2015/12/RestructuringHistory\\_December2015.pdf](http://nescoe.com/wp-content/uploads/2015/12/RestructuringHistory_December2015.pdf).

power took advantage of the exemption when it first became available, and, in the most recent auction, only 55 MW cleared under the exemption – in total roughly 0.2 percent of all resources procured through the most recent auction. As another example, NESCOE requested that ISO New England develop and implement a Solar PV Forecast for use in the region’s planning processes and in ISO New England’s Installed Capacity Requirement determinations, to ensure that consumers do not pay for solar resources in the context of state programs and then pay again through regional planning or markets that pretend those solar resources do not exist and are not contributing to meeting reliability goals. Despite ISO New England’s conservative accounting of solar PV resources in its forecast and a method grounded in economic prudence, this too has been met by New England generator challenges.

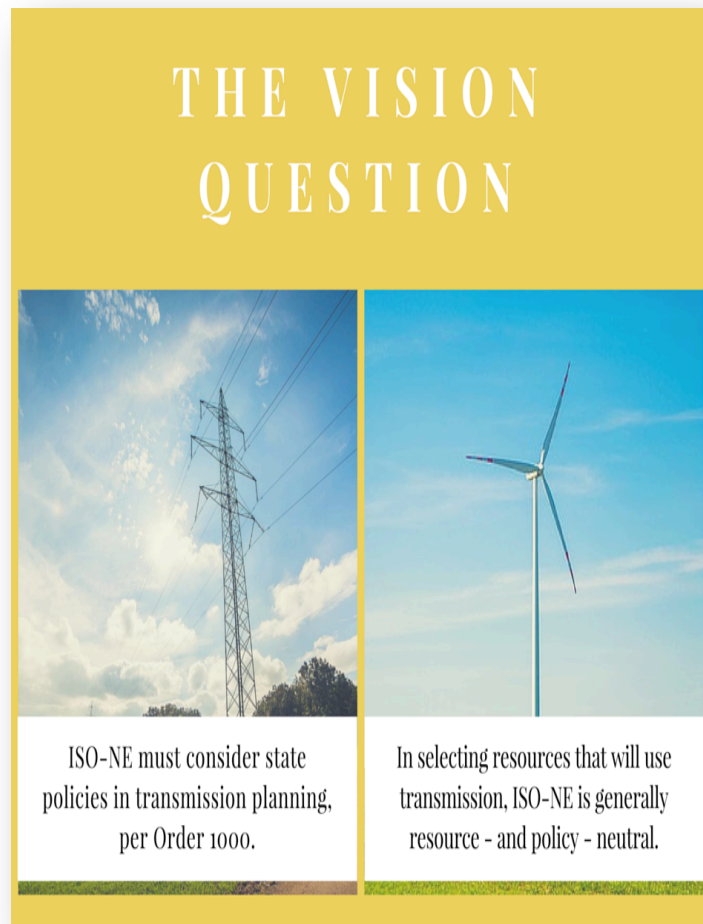


The practical reality is that state energy and environmental requirements intersect with regional competitive energy markets. State requirements must be harmonized with regional resource adequacy criteria and market mechanisms. This ensures that consumers receive the full value of their investments in clean and/or local energy resources and that resource needs in the wholesale markets are not overstated.

In 2016 and beyond, NESCOE will continue to work to have regional planning processes and markets account for state energy and environmental laws. These may include, but are not limited to, state renewable energy requirements, implementation of micro-grids and other means to enhance grid reliability, sustained aggressive investment in energy efficiency and small local generation resources, and continued progress to reduce the region’s reliance on higher emissions fuel sources. To the extent others “succeed” in opposing or weakening mechanisms that allow for accommodation of state policies, NESCOE will produce information and analysis for states about alternative ways forward.

## *FERC Order 1000: Ensuring Appropriate Opportunities for Competition and State Determinations Concerning Implementation of State Policies*

**Public Policies in Planning.** In prior years, NESCOE worked collaboratively with ISO New England and others to ensure that the New England implementation of Order 1000, which is a major shift in the regional transmission planning and development landscape, respected the authority and jurisdiction of state governments to execute the requirements of state laws and regulations. At the outset of the Order 1000 process, FERC characterized the new rules as a tool wherein ISO New England would consider state policies identified by states and stakeholders and produce related transmission analysis. The New England states were open to that process and analysis. In the final Order 1000 ruling concerning New England's process, FERC shifted, without explanation, the purpose and jurisdictional scope of the rules. FERC's ruling requires ISO New England to *select* a transmission project that would, in its judgment, satisfy state policy objectives most efficiently and cost-effectively and to place its preferred project in the Regional System Plan with associated costs being allocated across the states. Had FERC indicated that intent during its Order 1000 process, NESCOE (and likely others) would have protested it vigorously. Whether and how states satisfy their policies in state laws are decisions that belong to state officials, not ISO New England transmission planners, executives, or Board of Directors who have no authority, responsibility or accountability to citizens about implementation of state laws. In 2015, NESCOE and state agencies from five New England states filed a petition with the D.C. Circuit Court of Appeals to review FERC's compliance orders



relative to ISO New England's compliance with Order 1000.

In 2016, NESCOE will proceed with that litigation through the current appeal and beyond if and as appropriate. NESCOE will also seek to engage in productive conversations with FERC as it reviews the public policy process under Order 1000 and will evaluate FERC's response to Order 1000-related federal court actions and other proceedings. NESCOE will participate actively in any process for implementing competitive dynamics and the consideration of public policies in regional transmission planning.

**Competitive Transmission.** NESCOE supported FERC Order 1000's directive to introduce competitive dynamics into transmission development. Open processes, appropriately implemented, will allow experienced developers to compete to satisfy transmission needs at the lowest reasonable overall cost to consumers.

In 2015, NESCOE began to consider the range of complicated issues that arise in a transition to a competitive transmission framework. These include, for example, price controls and caps and project selection criteria. In some cases, the potential for consumer benefits and cost savings also present the potential for consumer risk, and so the transition from theory to implementation detail is critical.

To inform this transition, in 2015, NESCOE and ISO New England co-sponsored a *Competitive Transmission Forum*. The purpose was to enable New England to benefit from the experience and hindsight of regional transmission organizations and transmission developers elsewhere that moved forward with competitive processes earlier in time than New England due to the timing of the applicable FERC orders. New England heard from the California Independent System Operator, PJM, Southwest Power Pool and the New York ISO, as well as incumbent and non-incumbent transmission project developers that have participated in solicitations around the country to date.

In 2016, NESCOE will work with ISO New England and stakeholders on the implementation details to ensure they are structured in a way that promises in the first instance to maintain reliability at the lowest possible overall cost to consumers.

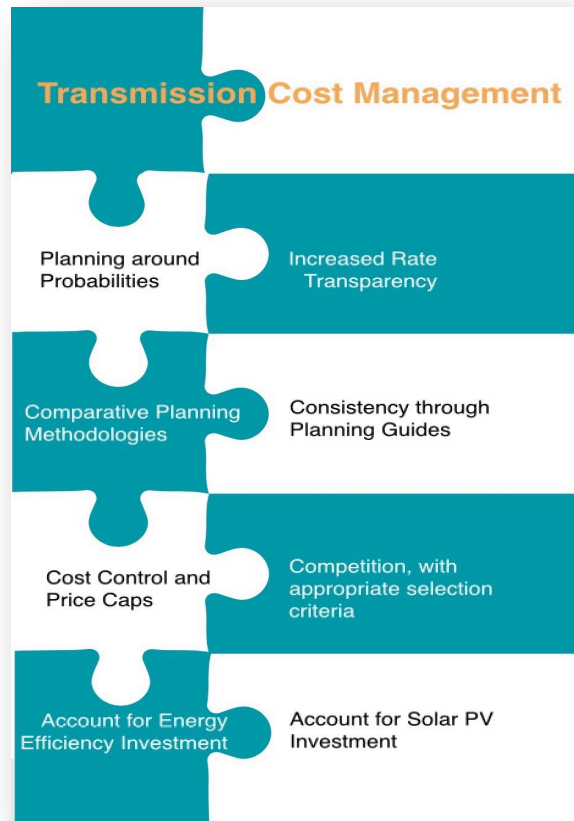
## *Improving Clarity, Consistency and Transparency in Transmission Planning*

Between 2010- and 2014, New England wholesale electric consumers paid more for transmission infrastructure relative to other bill components than consumers in other regions.<sup>4</sup> It is regularly stated that these investments were needed to make up for prior years when New England underinvested in reliability projects. The increasing relative level of transmission costs, and the importance of accurate transmission cost estimates to enable a fair comparison of transmission vis à vis other potential means to meet a need, spotlight transmission planning-related matters as an ongoing discussion point.

- **Transmission Methodology Planning Survey.** In 2015, NESCOE commissioned a transmission planning survey as an objective, fact-based comparison of other Regional Transmission Organization methods to ISO New England’s planning methods in order to inform continuing conversations about the approach to transmission planning in New England.

- **ISO New England Transmission Planning Guides.** In response to states’ request about transmission planning issues that arose across a number of state siting proceedings, ISO New England developed Planning Guides on the regional planning process and assumptions. The Planning Guides help to increase transparency about – and confidence in – aspects of the planning process that are often questioned in the New England stakeholder process and during state siting proceedings, including how ISO New England models transmission system conditions in identifying a system “need.” In 2015, NESCOE continued to provide input on the evolving Planning Guides.

- **Probabilities in Planning.** In prior years, NESCOE presented to the PAC and the



<sup>4</sup> For more information, see NESCOE’s summary of the 2015 ISO/RTO Metrics Report (November 2015), at slide 10, available at [http://nescoe.com/wp-content/uploads/2015/11/ISO-RTO\\_Metrics\\_25Nov2015.pdf](http://nescoe.com/wp-content/uploads/2015/11/ISO-RTO_Metrics_25Nov2015.pdf).

NPCC Regulatory/Government Affairs Advisory Group the concept of utilizing probabilities in system planning. In short, the use of probabilities would establish a more analytically and mathematically coherent approach to developing planning assumptions, enhancing both consistency across planning studies and transparency. In 2015, NESCOE continued communication about this important issue and ISO New England began exploring in earnest load modeling and unit availability assumptions.

- ***FERC Transmission Formula Rate Protocols and the Formula Rate.*** In 2015, consumer advocate representatives from across the region and NESCOE began discussing with New England Transmission Owners the development and implementation of protocols to increase transparency and accessibility of information regarding transmission rate recovery. This category of costs is not subjected to traditional contested regulatory scrutiny before they are passed through to consumers. Conversations about the protocols and other means to increase transparency of the formula rate will continue in 2016 in the context of a FERC Settlement Proceeding.
- ***Cost Caps and Containment.*** Accurate transmission project cost estimates and controls have long been important to consumers that fund such projects. Reliable cost estimates are a prerequisite to ISO New England's and state siting authorities' assessment of alternatives means to satisfy an identified objective in a way that best meets consumer interests. In 2015, discussion about cost control and containment mechanisms, including cost caps, shifted to forthcoming FERC Order 1000 procurement. In 2016, NESCOE will focus on the specifics of a cost cap methodology for transmission project proposals.

### ***Accounting for Energy Efficiency in Load Forecasting and Planning***

The New England states' sustained efforts to obtain from ISO New England greater integration of energy efficiency savings in the regional load forecast and system planning has achieved continuing results for consumers through ISO New England's energy efficiency forecast. The forecast reflects projected annual reductions in electric energy use, including peak demand, related to the New England states' investments in energy efficiency measures. From 2019 to 2024, ISO New England estimates that the New England states will collectively invest over \$6 billion in energy efficiency, reducing peak energy use by 1,274 MW over that period

The forecast helps to capture the full value of public dollars committed to state energy efficiency programs. Implementation of the energy efficiency forecast has already translated into hundreds of millions of dollars of savings for consumers in the form of transmission project deferrals.

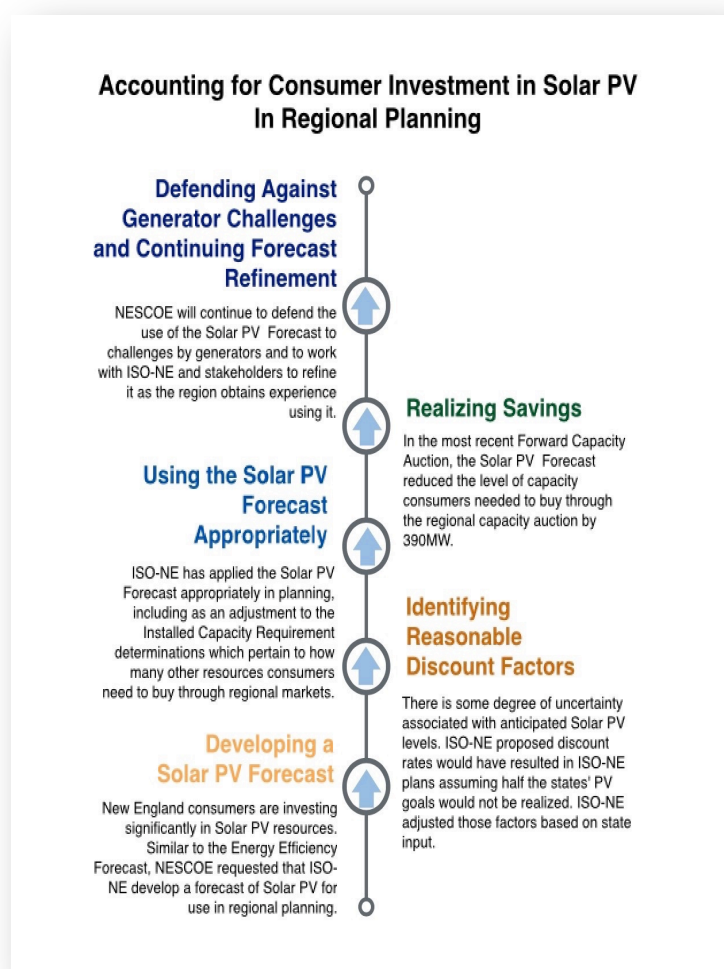
In 2016, NESCOE will continue to participate in ISO New England's Energy Efficiency Forecast Working Group and work with states and stakeholders as the forecasts are refined in light of experience gained over the initial forecast years.

## Accounting for Distributed Generation in Load Forecasting and Planning

Through state programs and policies, New England consumers invest substantially in distributed generation (DG) resources. In 2013, NESCOE requested that ISO New England produce a DG Forecast to account for the exponential increase of distributed resources expected to interconnect to the power system in the next ten years. NESCOE and state DG experts worked with ISO New England and stakeholders to develop the forecast. Throughout 2014, NESCOE urged ISO New England to use a Solar PV forecast in resource adequacy studies, such as the Installed Capacity Requirement and reserves determinations, so that consumer investments in resources through ISO

New England markets reflect consumer investment in local generation. In 2015, ISO New England applied the Solar PV Forecast to the Installed Capacity Requirement. As a result, New England consumers were required to buy about 390MW less capacity in the most recent capacity auction. NESCOE will assist ISO New England in the update of the Solar PV Forecast based on new data, policies and funding and defend the use of it against various generators' challenges.

Going forward, New England will need to work through the operational challenges that will result from a power system with substantially higher penetrations of solar and other distributed resources than exist today. As it relates to regional planning and markets, this may include forecasting, market accommodations and modifications to state interconnection standards.





## *Ensuring Power System Reliability and Associated Market Matters*

Over the last several years, New England has identified and sought to implement integrated market solutions to current and emerging risks to the New England power system. Some have presented increasingly acute challenges and risks to the power system and consumers. The issues range from resource performance to increased reliance on natural gas-fired units at a time of natural gas constraints, to the potential retirement of generation units and the integration of variable resources, such as wind power.

In 2015, the region focused on market design changes to address these challenges and to improve the function and competitiveness of various markets. Over the course of the year, the Markets Committee covered dozens of proposed market rule changes. Some proposed changes resulted from years of analysis and discussion. Others emerged in reaction to current circumstances.

In 2015, NESCOE advanced and contributed to the development of a series of market mechanisms related to these challenges and the adequacy of the region's power system resources, including:

- **System-Wide Demand Curve and Renewable Resource Technology Exemption:** After a decade of regional discussion and debate, NESCOE supported in 2014 a package of Forward Capacity Market design changes that included a downward sloping demand curve and an exemption to mitigation rules for renewable resources. All of these items were important to ensure a functional market that provides incentives for investors, protects consumers and accommodates state policy objectives. As discussed above, NESCOE spent considerable time and resources in 2015 defending the Renewable Resource Technology Exemption given sustained attacks from generating entities seeking to eliminate or weaken it.
- **Zonal Demand Curve:** After working successfully with ISO-NE and NEPOOL to separate zonal and system-wide demand curve implementation, the region began the complicated discussion of zonal demand curves. In late 2014 NESCOE's "same-as-system" proposed design received the support of many stakeholders. However, this effort was ultimately postponed. Work began in 2015 on a newly designed demand curve concept that would change the system-wide curve used in the last two auctions and implement new zonal demand curves going-forward. In 2016, this work will continue along with the discussion of a possible transition period for the system-wide curve.
- **Winter Reliability Programs:** As discussed above, FERC approved in 2015 a third consecutive program designed to address risks to reliable service arising due to the potential for stressed system conditions during the winter period. NESCOE played a major role in advancing an alternative winter program to ISO New England's proposed design, which would have cost consumers an additional \$100 million or more over the life of the three-year program in pursuit of a "more market-based

construct.” NESCOE was the initial proponent of this alternative program, which extended the core provisions of prior winter programs, and NEPOOL ultimately supported and sponsored the proposal that went before FERC and won approval.

- **Improved Pricing for “Fast Start” Resources:** NESCOE supported changes to the “fast-start” pricing methodology for so-called “fast start” resources that was designed to improve real-time price formation and properly reflect the value of these resources in New England’s real time market, which should benefit consumers over the long-term.
- **Resource Retirement Reforms:** NESCOE worked with ISO New England and stakeholders on a package of resource retirement reforms that balanced the interests of resource owners with promoting economically competitive auctions in furtherance of consumer interests. The changes are designed to provide additional options for resources seeking to permanently exit the capacity market and to improve the economic efficiency and functioning of the market while implementing necessary consumer protections from uneconomic retirements. These reforms become even more important as the region implements the zonal demand curves.

In 2016, NESCOE will continue to focus on improvements to the region’s wholesale markets in ways that provide consumers with reliable service at the lowest possible cost over the long-term while maintaining environmental quality.

### *Measuring, Tracking and Verifying Emissions Characteristics of Imported Power*

Verification of clean energy attributes for power imported into New England is critical if Canadian resources wish to be credited with helping states satisfy carbon reduction requirements or environmental objectives. There is no uniform structure currently in place in Eastern Canada to measure, verify, and track emissions characteristics of imports into New England.

In 2013, the New England Governors and Eastern Canadian Premiers adopted a resolution encouraging Canadian provinces to evaluate existing options and opportunities to adopt verification mechanisms of generation sources and environmental attributes that correspond with the existing New England Power Pool Generator Information System (GIS) verification mechanism.

In 2015, NESCOE worked within NEPOOL’s GIS Working Group to obtain a tracking-related rule change to allow hydroelectric units in adjacent control areas to receive unit-specific certificates. This tracking change is simply that: it has no effect on any state’s statutory definition of renewable or clean power under any state statute or program. Corresponding changes are likely needed on the other side of New England’s borders

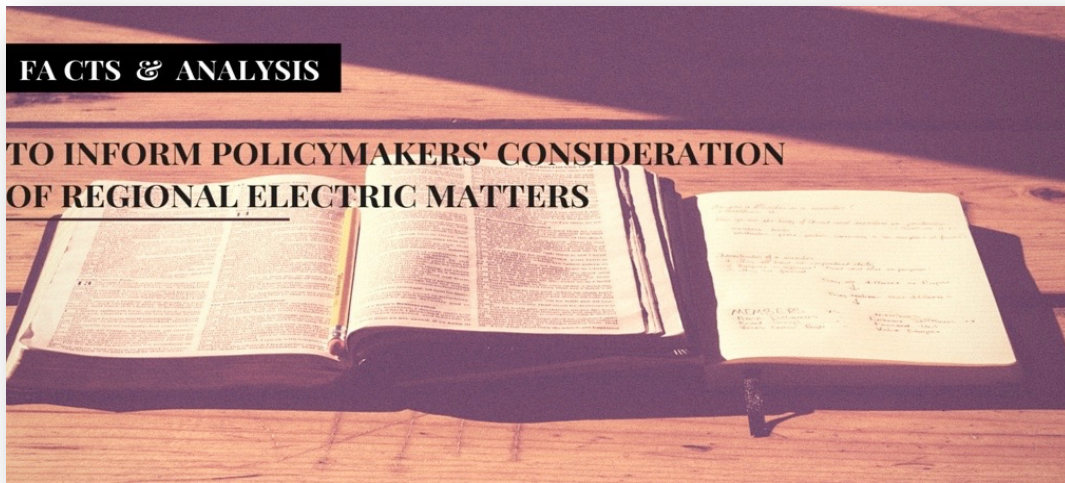
In 2016, NESCOE will continue to engage in the GIS Working Group’s consideration of tracking issues such as the creation of certificates for generators in certain nonadjacent control areas and the creation of certificates recognizing low-carbon and carbon-neutral generators.

### *Eastern Interconnection Planning Collaborative*

In 2015, NESCOE provided technical support to states as needed in connection with the EIPC. The EIPC was formed in 2010 to develop and analyze hypothetical future scenarios for the bulk power system throughout the eastern interconnection. The eastern interconnection includes 39 states, extending from the foot of the Rocky Mountains to the Atlantic seaboard and part of Canada. Consumers fund EIPC work conducted by Regional Transmission Organizations such as ISO New England and through state participation. The New England states have worked to ensure that analyses performed in the EIPC process reflect - to the fullest extent - the states' implementation of energy and environmental goals and that they provide objective data to inform future policy decisions.

In 2016, NESCOE will review and provide feedback where appropriate on studies and whitepapers developed through the EIPC and monitor the Planning Authorities' work on further studies to ensure New England consumers' interests are fully and fairly reflected.

### *Providing Context and Analysis to Help Inform Decisions*



In 2015, NESCOE continued to produce analysis to help inform decision-makers' consideration of regional electric issues, which are diverse and often complex. Some examples are as follows:

- **“Comparison of Transmission Reliability Planning Studies of ISO/RTOs in the U.S.”** by ICF International. As referenced above, NESCOE commissioned the transmission planning survey as an objective, fact-based comparison of other Regional Transmission Organization methods to ISO New England's's planning methods to inform continuing conversations about transmission planning in New England.
- **“Whitepaper: Mechanisms To Support Public Policy Resources In The New England States”** by NESCOE Staff. This Whitepaper identified a range of mechanisms available to states to support public policy resources, such as clean energy standards, contracting, and cap and trade programs. It describes each mechanism's mechanics, as well their interaction with the competitive wholesale markets and some legal and regulatory issues.
- **“Electric Restructuring In New England – A Look Back”** by Reishus Consulting, LLC. This paper focuses on the events and underlying rationale that led to the enactment and implementation of state-level electric deregulation – more precisely referred to as “restructuring” – in five of the six New England states, by citing examples of the publicly stated objectives and goals that policymakers and stakeholders expressed when adopting the regulatory framework that opened retail electricity markets to power supply competition.

In 2016, NESCOE will continue to provide analysis and information to help decision-makers evaluate the range of complex issues and their implications for consumers.

### ***Engagement in NERC Standards Development***

In 2015, NESCOE continued to track material policy issues arising from actions and proposals by NERC that may have significant power system reliability and consumer cost implications. Any NESCOE action in this area is guided by a core principle important to New England consumers: that the development of new reliability standards must consider both system reliability benefits and whether incremental reliability gains justify new costs imposed on electricity consumers.

NESCOE will continue to track NERC standards development in 2016, as well as NERC-related issues at the FERC that have significant resource adequacy and system planning implications for New England consumers.

## *Presentations*



In response to requests from various organizations, NESCOE representatives made a number of presentations throughout 2015. NESCOE appreciates these opportunities to share information and the states' collective perspective about current issues and to receive feedback. A representative sample of meetings at which NESCOE presented includes the following:

- The Northeast Energy and Commerce Association 14<sup>th</sup> Annual Power Markets Conference on *Out of Market Actions*
- The ISO New England Consumer Liaison Group on *FERC's Order 1000*
- The 10<sup>th</sup> Annual Platts Northeast Power and Gas Markets Conference on *Cross Border Power Exchange*
- Restructuring Roundtable on *New England's Winter Reliability Programs*

## **SECTION V: PRIORITIES FOR 2016 AND 2017**

NESCOE carries into 2016 several priority projects that will require significant attention. At the direction of Managers, NESCOE will also continue to identify areas for proactive engagement related to resource adequacy and system planning and expansion and conduct independent technical analyses to inform policymakers' decisions.

NESCOE looks forward to continuing to participate actively in NEPOOL stakeholder meetings, exchanging ideas with ISO New England and market participants, and representing the collective interests of New England states at FERC and, where appropriate, before other federal agencies and the courts.

In addition to addressing new issues that will require attention, NESCOE anticipates undertaking work in the following areas in 2016 and 2017:

- **Transmission Planning:** Review and provide input on ISO New England's plans and planning processes, including but not limited to Regional System Plans, forecasting, and certain needs assessments and solution studies; provide feedback on ISO New England's reexamination of appropriate planning assumptions, including load modeling and unit availability assumptions; ensure that ISO New England's implementation of FERC's Order 1000 appropriately reflects state laws and regulations, if and as determined by state officials, that would benefit from transmission analysis and identifies and applies criteria in competitive transmission evaluation processes in a way that advances reliable service at the lowest cost to consumers over the long-term and avoids unintended consequences.
  
- **Transmission Cost Estimation, Containment Practices and Transparency:**
  - Consistent with requests to ISO New England in prior years to gather and report transmission project costs in a way that enables costs to be tracked accurately over time as a project moves from a proposal to operation, continue tracking transmission project costs, monitoring cost overruns, and advancing changes to cost estimating practices or requirements.
  - To the extent improved project cost estimating and tracking reveal cost overruns, which, among other issues, suggest alternative means would have been a better choice for consumers to satisfy the identified need, work with ISO New England and transmission companies to modify cost estimating practices and/or mitigate cost escalation.
  - Cost estimating and containment practices will take on a different kind of importance as the region moves to a framework under FERC's Order 1000 in which transmission developers offer competing transmission proposals to satisfy the same need, and cost containment features influence project selection. The potential for consumer savings that properly structured cost caps and appropriate selection criteria could deliver can also result in consumer risk. Accordingly, NESCOE will work with ISO New England and stakeholders on the details of initial Order 1000 competitive transmission implementation, monitor the initial results and recommend adjustments as appropriate.
  - Continue active participation in the development of so-called Formula Rate Transmission Protocols and other related consumer protections that will increase transparency of and confidence in the rates New England Transmission Owners file with FERC for approval that are not as a matter of course subject to review in traditional regulatory proceedings; once implemented, continue to monitor the information transmission owners submit to FERC for cost recovery.
  
- **Reliability Requirements:** Provide input as appropriate on ISO New England's

recommended Installed Capacity Requirement (ICR), related values and associated issues, with particular attention to ensuring that the ICR appropriately reflects New England consumers' increasing investment in local distributed generation and other clean energy resources and the improved generator performance New England consumers will pay for through ISO New England's Pay-for-Performance modifications to the Forward Capacity Market.

- **Resource Adequacy and Reliability Over the Long-Term:** Work with stakeholders and ISO New England to ensure that any proposed modifications to the Forward Capacity Market or other market rules provide consumers with reliable service at the lowest possible cost over the long-term while maintaining environmental quality. Additionally, to inform policy-makers' consideration of proposed solutions, provide state policymakers with analyses where appropriate to confirm the nature of identified risks, and to understand the range of potential cost-effective solutions, including whether the costs of proposed solutions have a reasonable relationship to asserted risks.
  
- **State Inputs into and Perspectives on Clean Energy-related Studies**
  - NEPOOL identified as a 2016 business priority submitting a request to ISO New England for one of its economic studies contemplated by Attachment K of the ISO New England tariff. The proposed NEPOOL-requested study would examine public policies and markets. NESCOE, along with NEPOOL stakeholders that have diverse objectives, will provide some policy inputs into the study and offer the states' perspective about its details and outcomes.
  - ISO New England has indicated that in 2016 it will continue to work on strategic transmission studies and produce by the end of the year analysis about relieving transmission constraints in the State of Maine that have prevented clean power resources located in that state from reaching New England's load centers in southern New England. This will include cost estimates. NESCOE will offer collective state views about the study as it moves along and upon its conclusion.
  - In 2016, NESCOE expects to produce qualitative and quantitative information about a range of potential clean energy mechanisms that states may consider using in future years, after, for example, Renewable Portfolio Standards hit their current targets in some states and after ongoing work on long-term contracts satisfy other current needs.
  
- **Accommodating Requirements of New England States' Energy and Environmental Laws and Regulations in New England Wholesale Markets:** Advocate to ensure reasonable and necessary harmonization in the regional electricity market of state energy and environmental policies codified in New England states' laws. This includes but is not limited to policies and/or programs related to carbon-reduction, storage, and distributed generation, for example.

- **Defense of Consumers in Litigation Advanced by New England Power Generators:** To the extent New England power generators continue to litigate matters related to the wholesale markets' accommodation of state laws, defend consumer economic and other interests.
- **New England States' Common Infrastructure Interests:** In 2016, NESCOE will, at the direction of the New England Governors, support and/or coordinate as appropriate their representatives' efforts to explore and execute cost-effective solutions to the region's power system reliability challenges, which would enhance reliability and mitigate the associated price disparity between New England customers and customers elsewhere, and improve New England's economic competitiveness.
- **Coordinated Procurement:** At the direction of the New England states, coordinate and support any additional states' regional competitive procurement to facilitate development of resources that would further state policies, take advantage of economies of scale to the benefit of consumers in multiple states, and provide individual states the opportunity to consider projects that may advance their energy and environmental objectives at the lowest all-in delivered cost to consumers.
- **Advocate for Reasonable Decision-Making Processes that Enable Full Consideration of Economic Implications on Consumers:** Ensure that decision-making processes provide reasonable notice and opportunity to consider fully the consumer implications of proposed rule changes and opportunities for states – and stakeholders – to explore the lowest cost means to achieve identified objectives.
- **Generator Tracking System Issues:** Continue to work with NEPOOL and other stakeholders to refine, if and as needed, tracking systems to enable appropriate carbon reduction validation and to the extent imported hydropower is to satisfy state carbon reduction requirements, support, as needed, implementation of the same in the Canadian provinces.
- **Eastern Interconnection Planning Collaborative:** Monitor and analyze interconnection-wide study activities conducted by EIPC to ensure that New England consumers' interests are appropriately represented and that system planning determinations that have economic implications for New England ratepayers remain a function of regional decision-making; and work to ensure that any customer-supported interconnection-wide studies provide value to New England customers.



- **NERC:** Continue to track and comment on major NERC policy activities when they have the potential for significant cost implications for New England electricity consumers, and seek to ensure that reliability standards development and other NERC activities appropriately consider the costs relative to potential incremental reliability gains and take regional differences into account.
- **Energy Efficiency in Planning:** Support refinement of ISO New England’s [Energy Efficiency Forecast](#) to ensure that the transmission planning process continues to accurately reflect consumers’ significant investments in energy efficiency resources and the resulting reduction to the region’s energy use.
- **Distributed Generation Forecast:** To ensure that consumers receive the full benefit of state policies and consumer investments in all forms of power generation technologies, continue working with ISO New England and stakeholders to appropriately capture in the load forecast the increased penetration of solar energy, and to ensure the application of this forecast to the transmission planning process and resource adequacy determinations. NESCOE will work with states and ISO New England to refine and improve the distributed generation forecast based on early experience.
- **Demand Response Integration:** Following the United States Supreme Court’s decision to overturn *EPSA v. FERC*, represent the states’ point of views as ISO New England moves forward with the demand response full integration approach and in reviewing conforming tariff changes.
- **Interconnecting Resources Efficiently:** Participate in Phase II of ISO New England’s reforms to New England’s generation interconnection queue to improve the time and costs to move proposed projects through the queue in absolute terms and in relation to other Regional Transmission Organizations and contribute to discussions about the potential use of the cluster interconnection provision in ISO New England’s tariff.
- **ISO New England Major Initiatives Assessment:** Advance consumer interests in connection with ISO New England’s approach to and execution of quantitative and qualitative analysis of major market initiatives, with a focus on ensuring the consumer cost implications of proposed initiatives, and any alternatives, are understood and considered in decision-making.
- **Coordinate with Regional Organizations:** Continue coordination with NECPUC, CONEG and other state agencies and organizations on important regional and federal issues affecting resource adequacy and system planning and expansion to avoid duplication of efforts and to ensure consistency of views.

## **VI. 2015 EXPENDITURES**

NESCOE operations are funded by a FERC-approved charge collected through Schedule 5 of Section IV.A of ISO New England's tariff.

In 2015, an independent audit of NESCOE's books for the year-end December 31, 2014, was completed and presented to the NESCOE Managers. The independent auditor opined that the organization's books conform to generally accepted accounting principles and issued an unqualified opinion letter.

A 2015 Statement of Spending is at page 35.

## **VII. BUDGET 2016 & PRELIMINARY BUDGET 2017**

NESCOE's 2016 budget, which is consistent with the current five-year *pro-forma* approved by NEPOOL and accepted by FERC, was presented to and affirmed by NEPOOL in October 2015. The 2016 NESCOE budget was submitted to the FERC, also in October, and was accepted in December 2015.

The 2016 and preliminary 2017 budgets are at page 36.

## 2015 Statement of Spending

### NESCOE

Statement of Spending  
December 31, 2015

<b>Expenses</b>	
Direct Expenses, Consulting	
Legal (FERC) Services	144,009
Technical Consulting	220,682
Total Direct Expenses, Consulting	<u>364,691</u>
Employment and Benefits	
Disability	9,673
Employee Health Insurance	44,186
Life Insurance	1,046
Payroll Taxes	51,134
Pension Contributions	29,518
Salaries & Wages	770,468
Total Employment and Benefits	<u>906,024</u>
General and Administrative	
Dues and Subscriptions	6,966
Insurance	6,955
Office Expenses	4,687
Professional Services	35,189
Rent, Parking & Utilities	23,328
Telephone & Communications	10,675
Travel and Meetings	56,567
Total General and Administrative	<u>144,366</u>
Capital Expenditures	
Asset Acquisition	8,454
Total Capital Expenditures	<u>8,454</u>
<b>Total Expenses</b>	<b><u><u>1,423,535</u></u></b>

2016 (actual) and 2017 (preliminary) Budgets

**NESCOE Pro Forma Budget  
2016 and Preliminary 2017**

	<u>2016</u>	<u>Preliminary 2017</u>
<b>Salaries and Wages</b>		
Salaries	926,590	954,388
Payroll Taxes	92,659	95,439
Health and Other Benefits	82,500	84,975
Retirement §401(k)	<u>37,064</u>	<u>38,176</u>
<b>Total, Salaries and Wages</b>	<u>1,138,813</u>	<u>1,172,977</u>
<b>Direct Expenses - Consulting</b>		
Technical Analysis	488,014	502,654
Legal (FERC)	<u>132,613</u>	<u>136,591</u>
<b>Total, Direct Expenses, Consulting</b>	<u>620,627</u>	<u>639,246</u>
<b>General and Administrative</b>		
Rent	25,000	25,750
Utilities	5,000	5,150
Office and Administrative Expenses	41,000	42,230
Professional Services	75,854	78,130
Travel/Lodging/Meetings	<u>88,468</u>	<u>91,122</u>
<b>Total General and Administrative</b>	<u>235,322</u>	<u>242,382</u>
<b>Capital Expend. &amp; Contingencies</b>		
Computer Equipment	5,464	5,628
Contingencies	<u>200,033</u>	<u>206,034</u>
<b>Capital Expend. &amp; Contingencies</b>	<u>205,497</u>	<u>211,662</u>
<b>TOTAL EXPENSES</b>	<u>2,200,259</u>	<u>2,266,267</u>
<b>BUDGET</b>	2,317,455	2,386,979